

Title (en)  
DISPLAY APPARATUS AND HEAD-MOUNTED DISPLAY

Title (de)  
ANZEIGEVORRICHTUNG UND KOPFMONTIERTE ANZEIGE

Title (fr)  
APPAREIL D’AFFICHAGE ET VISIOCASQUE

Publication  
**EP 3605215 A4 20200812 (EN)**

Application  
**EP 18774996 A 20180330**

Priority  
• JP 2017067299 A 20170330  
• JP 2018013647 W 20180330

Abstract (en)  
[origin: EP3605215A1] A liquid crystal display device 10 includes: a liquid crystal panel 11; a backlight device 12; an LED 13 that includes at least a blue LED element 17 that emits blue light and a red phosphor configured to emit red light when excited by the blue light from the blue LED element 17; a backlight controller 21 configured to control the driving of the LED 13 in synchronization with a display of the liquid crystal panel 11 so that a one-frame display period in the liquid crystal panel 11 includes a turn-on period and a turn-off period; a complex fluoride red phosphor that constitutes the red phosphor and having a content ratio in a range from 50% to 85% inclusive; and a nitride red phosphor that constitutes the red phosphor and having a content ratio in a range from 15% to 50% inclusive.

IPC 8 full level  
**G02F 1/13357** (2006.01); **C09K 11/00** (2006.01); **G02B 27/01** (2006.01); **G09G 3/00** (2006.01); **G09G 3/34** (2006.01); **H01L 33/26** (2010.01); **C09K 11/64** (2006.01); **C09K 11/67** (2006.01); **C09K 11/77** (2006.01); **F21V 8/00** (2006.01); **G02B 6/00** (2006.01); **G02F 1/1335** (2006.01)

CPC (source: EP US)  
**C09K 11/645** (2013.01 - EP); **C09K 11/675** (2013.01 - EP); **C09K 11/77348** (2021.01 - EP US); **G02B 27/0172** (2013.01 - EP US); **G02F 1/1336** (2013.01 - US); **G09G 3/002** (2013.01 - EP); **G09G 3/3406** (2013.01 - EP); **H01L 33/502** (2013.01 - EP); **G02B 6/0013** (2013.01 - EP); **G02B 6/0038** (2013.01 - EP); **G02B 6/0068** (2013.01 - EP); **G02B 2027/0112** (2013.01 - EP); **G02F 1/133601** (2021.01 - EP); **G02F 1/133614** (2021.01 - EP US); **G02F 1/133615** (2013.01 - EP)

Citation (search report)  
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• [IAY] KR 20160018636 A 20160217 - WOOREE E&L CO LTD [KR]  
• [Y] US 2002057241 A1 20020516 - ODA KYOICHIRO [JP], et al  
• [Y] US 2007091059 A1 20070426 - KANG KI-HYUNG [KR]  
• [A] JP 2004206044 A 20040722 - FUJITSU DISPLAY TECH  
• See references of WO 2018181908A1

Designated contracting state (EPC)  
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**EP 3605215 A1 20200205**; **EP 3605215 A4 20200812**; CN 110476112 A 20191119; CN 110476112 B 20220719; US 10775627 B2 20200915; US 11048092 B2 20210629; US 2020089000 A1 20200319; US 2021096374 A1 20210401; WO 2018181908 A1 20181004

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**EP 18774996 A 20180330**; CN 201880021510 A 20180330; JP 2018013647 W 20180330; US 201816497813 A 20180330; US 202016988753 A 20200810